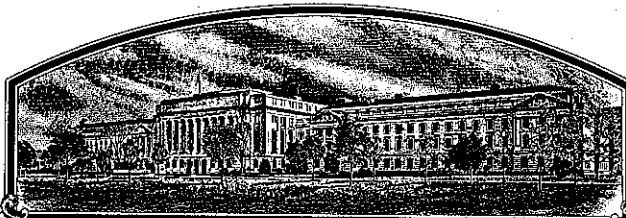


No.

9300250



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'9721'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirty-first day of October in the year of our Lord one thousand nine hundred and ninety-five.

Attest:

Martha A. Stanton

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Samuel J. Hittman
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Pioneer Hi-Bred International, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.	3. VARIETY NAME 9721
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 700 Capital Square 400 Locust Des Moines, IA 50309		5. PHONE (Include area code) (515) 270-3582	FOR OFFICIAL USE ONLY VPVO NUMBER 9300250 Filing and Examination Fee: \$2325.00 Date June 7, 1993 Certificate Fee: \$300.00 Date Sept. 5, 1995
6. GENUS AND SPECIES NAME Glycine max	7. FAMILY NAME (Botanical) Leguminosae		
8. CROP KIND NAME (Common Name) Soybean	9. DATE OF DETERMINATION October 1987		
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Iowa		12. DATE OF INCORPORATION 1926	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS			
John Grace 7301 NW 62nd Ave., P.O. Box 85 Johnston, IA 50131-0085		Mike Roth (copy) 700 Capital Square, 400 Locust Street Des Moines, IA 50309	

PHONE (Include area code):

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a. ☒ Exhibit A, Origin and Breeding History of the Variety.
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety.
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office **6/11/93**
g. ☒ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)

☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____)
☒ NO

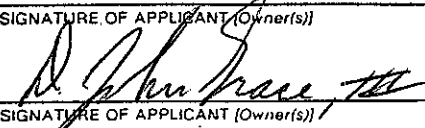
19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?

☐ YES (If "YES," give names of countries and dates)
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT (Owner(s)) 	CAPACITY OR TITLE Soybean Research Manager	DATE 6/3/93
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE

Pioneer Hi-Bred International, Inc.
PVP Application Variety 9721 Soybean
April 1993

EXHIBIT A

Origin and Breeding History of Variety 9721

Summer 1984	Original cross made at Greenville, MS. Cross number was 2914. Parentage - Pioneer Variety 9791 * Pioneer Variety 9751. 9791 = Gasoy 17 * Tracy 9751 = Centennial * Braxton
Winter 1984-85	F1 plants grown in Hawaii under artificial light.
Summer 1985	F2 advanced to F3 by modified single seed descent at Greenville, MS.
Winter 1985-86	F3 bulks advanced to F5 in two-generation advance by modified single seed descent.
Summer 1986	F5 bulk of 2914 grown in Greenville, MS and 310 plants selected.
Summer 1987	F6 progeny rows of 2914 grown in Greenville, MS. Row G7-11619 selected and composited.
Summer 1988	Yield tested G7-11619 as 2914-19 in three replications as entry 33 in GRD70500.
Summer 1989	Yield tested 2914-19 in five locations in the south as entry 16 in GRA7B100. Plants were grown and harvested as individual plants to start strain purification.
Summer 1990	Yield tested as W2914-19 in twelve locations in the south and the southeast.
Summer 1991	Yield tested as Y2914-19 in eleven locations in the south and the southeast.

Pioneer Hi-Bred International, Inc.
PVP Application Variety 9721 Soybean
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Page 2

Summer 1992

Yield tested as XB72A in eleven locations in the south and the southeast. Approximately three acres of parent seed (80 bushels) were produced at Greenville, Mississippi.

December 1992

XB72A was nominated for release and full production and assigned the designation 9721.

Yield trials and seed production in 1992 indicate Variety 9721 is uniform and stable. As with other soybean varieties, variants can occur for almost any character during the course of repeated sexual production.

Pioneer Hi-Bred International, Inc.
PVP Application Variety 9721 Soybean
April 1993

EXHIBIT B

Variety 9721 is most similar to Braxton, Coker variety 6738, Colquitt, DP726, DP3733, Gregg, H7126, Howard, Pioneer variety 9761, Ransom, and Wright.

However, variety 9721 differs from DP726, Gregg, H7126, and Howard in resistance to stem canker [caused by Diaporthe phaseolorum (Cke. & Ell.) Sacc. var. caulivora Athow & Caldwell]. 9721 is resistant, whereas DP726, Gregg, H7126, and Howard are susceptible.

Variety 9721 differs from Braxton, Coker variety 6738, Colquitt, DP3733, Pioneer variety 9761, and Ransom in resistance to Phytophthora root rot race 2 [caused by Phytophthora megasperma Drechs. f. sp. glycinea Kuan & Erwin]. Variety 9721 is resistant, whereas Braxton, Coker variety 6738, DP3733, Pioneer variety 9761, Ransom, and Colquitt are susceptible.

Variety 9721 differs from Wright in resistance to the frogeye leafspot fungus [Cercospora sojina Hara (syn. C. daizu Miura)]. Variety 9721 is susceptible, whereas Wright is resistant.

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION
 PLANT VARIETY PROTECTION OFFICE
 BELTSVILLE, MARYLAND 20705

EXHIBIT C
 (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Pioneer Hi-Bred International, Inc.	TEMPORARY DESIGNATION	VARIETY NAME 9721
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 700 Capital Square 400 Locust Des Moines, IA 50309		FOR OFFICIAL USE ONLY PVPO NUMBER 9300250

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
 3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
 4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a) 2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
 4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 1

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 21 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 11 = Determinate ('Gnome'; 'Braxton')
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

2 = Semi-Determinate ('Will')

★ 18. MATURITY GROUP:

☐ 1 ☐ 01 = 000
9 = VI2 = 00
10 = VII3 = 0
11 = VIII4 = I
12 = IX5 = II
13 = X

6 = III

7 = IV

8 = V

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 2Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 2Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 2Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

Race 4

☐ 1

Race 5

☐

Other (Specify)

☐ 2Target Spot (*Corynespora cassiicola*)☐ 2Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐ 2Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 1 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 1 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 2 Race 1 ☐ 2 Race 2 ☐ 2 Race 3 ☐ 2 Race 4 ☐ 2 Race 5 ☐ 0 Race 6 ☐ 2 Race 7
- ☐ 2 Race 8 ☐ 2 Race 9 ☐ 2 Other (Specify) R10, R13, R16, R17, R21, R25

VIRAL DISEASES:

- ☐ 1 Bud Blight (Tobacco Ringspot Virus)
- ☐ 1 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 1 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 1 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 1 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ Other (Specify) _____
- ☐ 0 Lance Nematode (*Hoplolaimus Colonus*)
- ★ ☐ 2 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 0 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 1 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 1 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	9761	Seed Coat Luster	9761
Leaf Shape	9761	Seed Size	9761
Leaf Color	9761	Seed Shape	9761
Leaf Size	9761	Seedling Pigmentation	9761

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
9721 Submitted	142.9	2.6	87.6			44.5	21.2	14.1	
9761 Name of Similar Variety	143.9	2.4	90.4			42.3	24.0	13.3	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

Pioneer Hi-Bred International, Inc.
PVP Application Variety 9721 Soybean
April 1993

Exhibit D: In Exhibit C we have identified 9721 as susceptible to pod and stem blight, rhizoctonia root rot, bud blight, yellow mosaic, cowpea mosaic, pod mottle, and seed mottle. This does not mean that 9721 is any worse for these problems than other varieties of similar maturity. Rather, we do not consider 9721 to be immune to them. Therefore, we have chosen to be conservative and have identified the line as 'susceptible'.

Table 1. Isozyme information for 9721

<u>ACO2</u>	<u>ACO3</u>	<u>ACO4</u>	<u>ACP</u>	<u>DIA</u>	<u>ENP</u>	<u>IDH1</u>	<u>IDH2</u>	<u>MDH</u>	<u>MPI</u>	<u>PGM</u>	<u>PHI</u>
2	1	1	A	A	B	2	1	B	A	2	2

9721 is an early group VII variety. If group VII maturities are divided in tenths, the relative maturity for 9721 is 7.2.

Exhibit E: Variety 9721 was developed by Pioneer Hi-Bred International, Inc., for which it solicits a certificate of protection.